SONANCE®

MERLOT® M-SERIES IN-WALL SPEAKERS

INSTRUCTION MANUAL

Introduction

Thank you for purchasing Sonance Merlot® M-series in-wall speakers. When properly installed your new speakers will give you years of entertainment pleasure. This manual will teach you all about your new speakers' many innovative features and will show you how to get the very best performance from them. Please read it thoroughly.

Since all of the Merlot M-series speakers have identical installation requirements, the directions in this manual apply to each model in the series. This manual covers the Merlot 423M and Merlot 422M

Figure 1:
Sonance Merlot®
423M Speaker

SAFETY WARNING:

These speakers have FastMount® tabs that prevent the speaker from falling out of the mounting hole during the installation process.

THE EDGES OF THE FASTMOUNT TABS ARE VERY SHARP.
USE CAUTION WHEN HANDLING THE SPEAKER.

See *Installation* (page 6) for complete information about the FastMount tabs.

Design and Features

- **Small footprint lets you install Merlot speakers in places that present installation challenges while delivering sonic performance that will satisfy demanding listeners.**
- **Ideal for use in multi-channel home theater systems and stereo music systems.**
- **Pivoting tweeter directs the sound at listeners for clear sound and improved stereo imaging even when speaker placement options are limited.**
- **Advanced woofer cone materials create strong, low-distortion bass.**
- **A 3-position tweeter adjustment switch lets you balance the speaker's high-frequency energy to better compliment your room's setup and acoustics (Merlot 423M).**
- **The FastMount® tabs and RotoLock® mounting system make installation quick and easy.**

Box Contents

Your Sonance Merlot speaker box should contain the following items:

(2) Merlot speakers
(2) Paintable grilles
(2) Plastic paint plugs (installed on fronts of speakers)
(1) Mounting cutout template (in packaging)

Speaker Placement

When selecting mounting locations for your speakers you should consider such things as your primary listening location, the primary use for the speakers (2-channel stereo or home theater) and aesthetic values. Your local authorized Sonance dealer is an expert in audio/video system planning and installation. We strongly recommend that you work with your dealer to ensure that your system is properly planned, assembled and installed.

Stereo Speaker Placement

- Place the left and right speakers anywhere from 6 feet to 10 feet apart, with the main listening position as close to midway between the speakers as possible.
- The speakers should be 38 – 42 inches from the floor and at least 18 inches away from the side walls.
- The main listening position should be between 4 and 10 feet away from the speakers.
- In most cases pivoting the tweeter of each speaker directly towards the main listening position will help maximize the stereo soundstage. Use the left and right speaker placement in *Figure 2* (on page 3) as a guide.

Home Theater Speaker Placement

Left, Center & Right Channels

- Place the left & right speakers on either side of the video screen, anywhere from 6 feet to 10 feet apart and 38 – 42 inches from the floor (which corresponds to the height of your ears when you're seated on a couch or chair).
- If possible, locate the left and right speakers at least 18 inches away from the side walls.
- Locate the center speaker as close to the same height as the left & right channel speakers as possible. If you must place the center speaker above or below a video screen, we recommend placing it no more than 2 feet above or below the center of the left and right speakers. This will help maintain consistent tonality between all three front channel speakers.

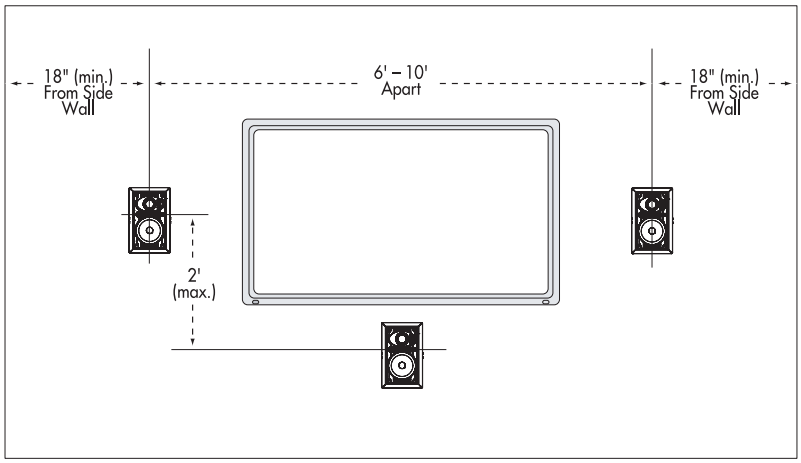

Figure 2: Home Theater Placement – Left, Center & Right Speakers

- The main listening position should be between 8 and 12 feet away from the speakers. Use *Figure 2* as a guide.

Surround Speakers (5.1-Channel System)

You can also use Sonance Merlot M-series speakers for surround channel applications in a home theater. Depending on your room's layout, you can locate the surround channel speakers in the side walls, in the rear wall or in the ceiling, If you are not sure which location will achieve the best performance in your room, contact your Authorized Sonance Dealer for advice.

Side wall mounting: Locate the surround channel speakers approximately 2 – 6 feet behind the listening position, at least 5 feet from the floor. Use *Figure 3* as a guide.

Ceiling mounting: Locate the left and right surround speakers on the ceiling between 2 feet and 4 feet behind the listening position. The speakers should be between 8 feet and 12 feet apart, with their woofers towards the listeners. Use *Figure 4* as a guide.

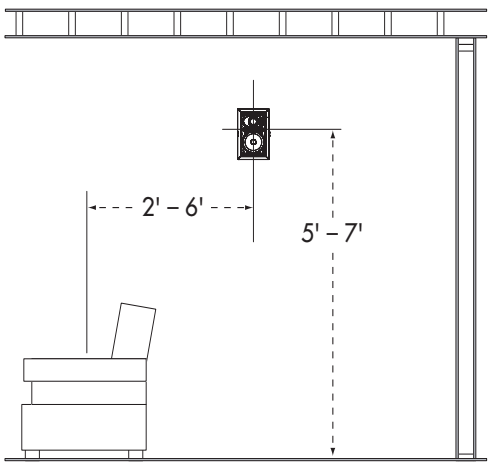

Figure 3: Side Wall
Surround Speaker Placement

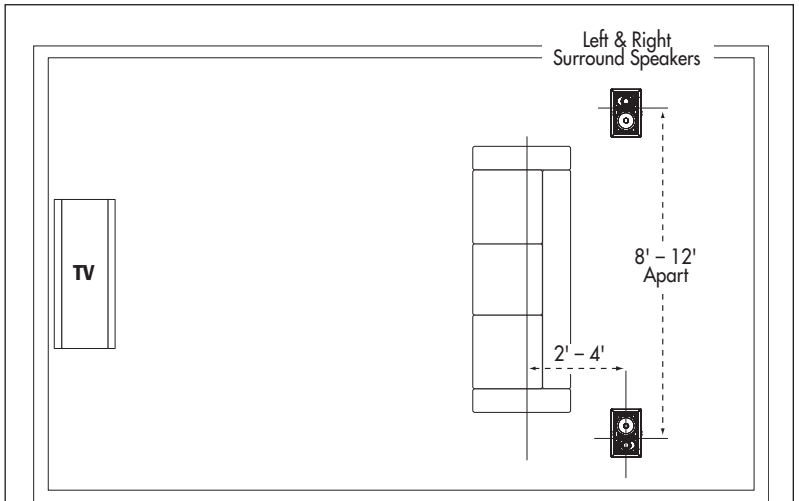

Figure 4: Ceiling
Surround Speaker Placement

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Rear wall mounting: Locate the surround channel speakers on the rear wall, 6 – 10 feet apart, at least 5 feet from the floor. Center the speakers on the listening location. Use *Figure 5* (below) as a guide.

Note: If the listening position is less than 2 feet in front of the rear wall we do not recommend mounting the surround speakers in the rear wall. Use ceiling mounting or side-wall mounting instead.

Surround Speakers (7.1-Channel System)

- **Left & Right Surround Speakers:** Place the left and right surround speakers directly to the sides of the listening position, at least 5 feet from the floor.
- **Surround Back Speakers:** Place the surround back speakers in the rear wall, between 3 feet and 6 feet apart and at least 5 feet from the floor.

Use *Figure 6* as a guide.

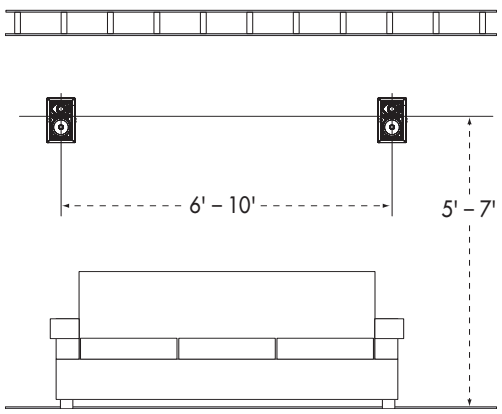

Figure 5: Rear Wall Surround Speaker Placement

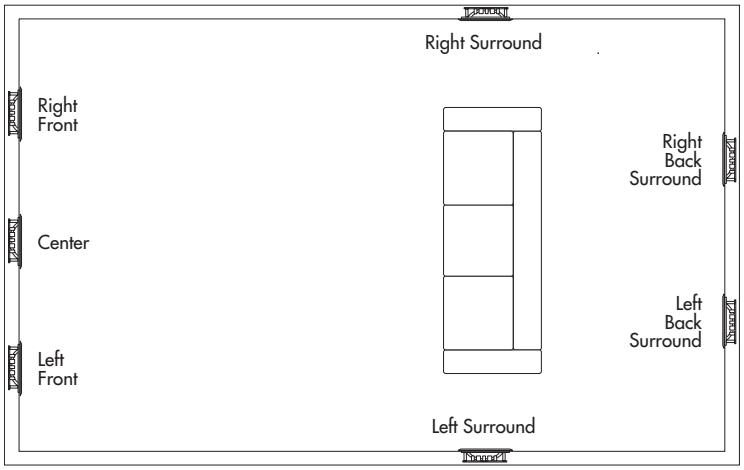

Figure 6: Speaker Placement in a 7.1-Channel System

Selecting the Proper Speaker Wire

For the best sound we recommend that you use premium Sonance MediaLinQ® speaker cable, which also complies with UL fire rating codes. You may also experiment with audiophile brands of speaker cable and interconnects, but be sure to check local codes governing wire that may be installed within walls or ceilings. Different brands of wire can have different sonic characteristics, and some may be more compatible with the sonic "signature" of your various audio system components.

Wire Resistance in Ohms vs. Length of Cable Run						
Distance in Feet	**50'**	**100'**	**150'**	**200'**	**250'**	**300'**
20 gauge	1.04	2.07	3.11	4.14	5.18	6.22
18 gauge	**.65**	1.30	1.96	2.61	3.26	3.91
16 gauge	**.41**	**.82**	1.22	1.63	2.04	2.45
14 gauge	**.26**	**.52**	**.77**	1.03	1.29	1.55
12 gauge	**.16**	**.32**	**.49**	**.65**	**.81**	.97
10 gauge	**.10**	**.20**	**.31**	**.41**	**.51**	**.61**

Figure 7: Speaker Wire Resistance Table

For the best sound you should never use thin-gauge speaker wire – it will constrict the sound and diminish bass response. Extra resistance in the speaker wire can make a speaker sound less dynamic and reduce definition of the bass frequencies. In extreme cases, it can even attenuate high frequencies. Also, amplifier power is wasted in thin wire with extra resistance, reducing your system's maximum output level. To prevent degrading sound quality, the total wire resistance should be less than 10% of the speaker's impedance. This means that for an 8-ohm speaker, the total resistance of the wire should be less than 0.8 ohms. Refer to the chart in *Figure 7* when selecting the proper wire gauge for your system.

Preparing the Installation Location

Building a Back Box into the Wall Stud Bay

Sonance Merlot M-series speakers are designed to provide exceptionally musical performance in a wide variety of enclosure volumes. You can get the very best performance from your speakers by partitioning a section of the stud bay to form a sealed back box with a specific internal volume. Building such an enclosure will create a dramatic improvement in your speakers' bass performance and power handling. The ideal back box volume for the Merlot 423M and 422M is 0.25 ft^3.

Optional Merlot M-Series Speaker Enclosures

For installations where it isn't possible to partition the stud bay into a back box, installing optional Merlot M Acoustic Enclosures (part #92444) will noticeably improve your speakers' bass performance and power handling and will significantly reduce sound transmission into adjacent rooms and spaces. These enclosures are made from ½"-thick MDF and are designed to be installed in new construction only.

To reduce sound transmission into adjacent rooms in installations where it isn't possible to install a Merlot M Acoustic Enclosure (such as when you're retrofitting the speakers into an existing wall), you can fit the speakers with optional Merlot M-Series Retrofit Enclosures (part #92442). This enclosure is designed specifically to be used with Merlot M-series speakers, and will noticeably reduce sound "spillover" from the rears of the speakers into adjacent rooms and spaces.

Insulating the Wall Cavity

You can also reduce sound transmission to adjacent rooms and improve speaker performance by inserting a sheet of unfaced fiberglass insulation over the back of the speaker. To reduce mechanical noise produced by unsupported drywall, install fiberglass insulation in the stud bays adjacent to the speaker location.

Optional Accessories

Merlot M FlexBracket (part #91970): Plastic template to reserve a mounting hole for Merlot M-series speakers in new construction. Designed for use with the RotoLock® mounting system.

Merlot M Masonry Bracket (part #92067): Thin plastic bracket for walls constructed of brick and finished with plaster. Provides surface in brick walls that can accommodate RotoLock® mounting system.

Merlot M Acoustic Enclosure (part #92444): ½" MDF enclosure that provides ideal acoustic performance and maximum reduction of sound transmission into adjacent spaces. Designed for use only in new construction.

Merlot M Retrofit Enclosure (part #92442): Molded enclosure that reduces sound transmission into adjacent rooms and spaces. Can be used in both new construction and retrofit installations.

Sonafill® In-Wall System (part #91698): Retrofittable acoustical treatment consisting of two pillows and four tiles that virtually eliminates noises produced by resonating drywall. Dramatically improves midbass sound quality and reduces sound transmission into adjacent rooms.

Sonafill®

Sonafill (part #91698) is a retrofittable acoustical treatment system consisting of two pillows and four tiles that virtually eliminates noises produced by resonating drywall. The tiles have pressure-sensitive adhesive and are installed on the back of the drywall on either side of the speaker between the wall studs; the pillows are then stuffed in place behind the tiles. The system dramatically improves midbass sound quality and reduces sound transmission into adjacent rooms.

Installing the Speakers

Before Installation: New Construction

For installations in new construction, Sonance recommends using a Merlot M FlexBracket (part #92336) to reserve a location for the speaker. The FlexBracket has perforated wings that can be positioned anywhere around the bracket, and is nailed or screwed to the studs. This serves as a guide for the drywaller so that the speaker hole will be in the desired location once the drywall is installed.

Before Installation: Retrofit

1. Determine the location for the speaker (see *Speaker Placement* on pages 2 – 4).
2. Perform an obstruction survey to be certain that there are no studs, conduit, pipes, heating ducts, pocket doors or air returns in the wall cavity that will interfere with the speaker.
3. The cutout for all Merlot M speakers is $8\,1/16$" x $4\,5/8$" (205mm x 117mm). There also must be at least 3" (76mm) depth within the wall cavity for the speaker.

4. Position the included cutout template where the speaker is to be located and pencil an outline on the wall.
   - If you are unsure about obstructions, drill a small hole in the center of the outline and insert a coat hanger wire into the hole to feel-around for possible obstructions.
5. Cut the mounting hole using a keyhole or drywall saw, and run the speaker wires from the mounting hole to the amplifier location.
   - Consult local building codes before running speaker wires through walls.

Before Installation: IR Plug

All Sonance Merlot M-series speakers have a plug for installing an IR receiver into the speaker's front baffle (see *Figure 8*). In systems where the electronics are placed in an inconvenient location this allows remote controls to be aimed at the front of the room instead of at the electronics.

The IR plug is in the form of a bolt and retaining nut. To remove the plug, unscrew the nut (located behind the baffle, see *Figure 9*) and remove the bolt. The hole is designed to receive a Sonance OptiLinQ® SMR1 or SMR1P Surface-Mount IR receiver. Insert the IR receiver through the front of the speaker baffle and use the nut included with the receiver to secure it to the baffle.

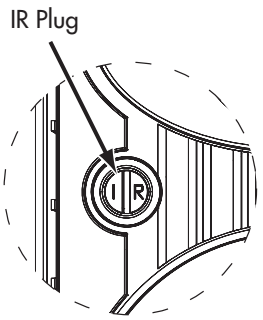

Figure 8:
IR Plug

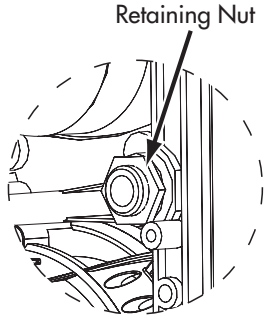

Figure 9:
IR Plug Retaining Nut

Note: The speaker's grille may reduce the effectiveness of the IR receiver. If this occurs, slightly enlarge the holes in the grille that are directly in front of the IR receiver.

Installation

Sonance Merlot M speakers feature exclusive FastMount® tabs and an integral RotoLock® mounting system for quick mounting directly into walls.

CAUTION: THE EDGES OF THE FASTMOUNT TABS ARE VERY SHARP. USE CAUTION WHEN HANDLING THE SPEAKER.

1. Remove the paint plug from the speaker.
2. Run speaker wire from each speaker to the amplifier location.
3. Strip ¼" – ½" of insulation from each speaker lead. Twist the strands or tin the exposed wire with solder to ensure that there are no stray strands. (Stray strands that touch each other can cause a short-circuit that can damage your amplifier.)
4. The speaker's connector posts are spring-loaded. Push the top of each connector post down to open the connector and insert the exposed wires into the holes in the posts.
   - The speaker's positive post is labeled with a red dot; the negative post is labeled with a black dot. Double-check that you connected amplifier "+" to speaker "+" and amplifier "–" to speaker "–".
5. Make sure all the RotoLock clamps are in the full clockwise position so that they are tucked within the mounting hole's border. Insert the speaker into the hole in the wall (*Figure 10*). The RotoLock system can accommodate a maximum wall material thickness of 1¼".

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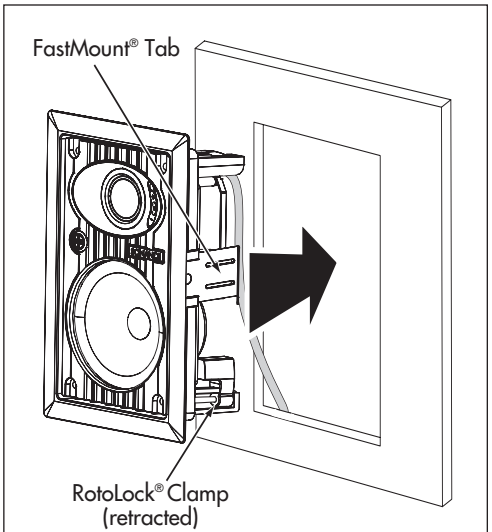

Figure 10: Inserting the Speaker
Into the Mounting Hole

- The FastMount tabs will prevent the speaker from falling out of the mounting hole, allowing the installer to let go of the speaker to pick-up tools or other items (see *Figure 11*).

Note: The FastMount tabs are designed for one-time use only. If the speaker is removed from the mounting hole the FastMount tabs will disconnect and remain inside the wall.

6. Tighten the four screws on the front of the speaker baffle. The RotoLock clamps will automatically rotate into position and begin clamping the speaker (see *Figure 12*).

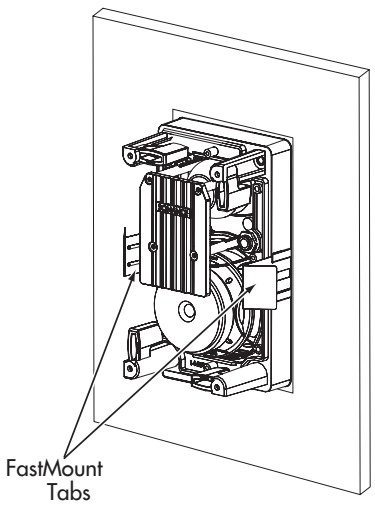

Figure 11:
FastMount Tabs

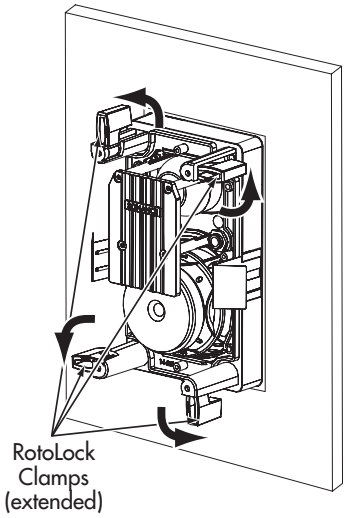

Figure 12:
Tightening the RotoLock Clamps

- When you notice resistance on the screws the speaker has been clamped successfully.

Important: Always use low-torque settings; NEVER over-tighten.

Note: The speaker flange is designed to flex and conform to any small imperfections in the wall surface. Do not tighten the screws so much so that the flange bows-out.

7. Attach the grille after the speaker has been installed. Insert about half of the grille into the groove at the edge of the speaker. Gently fit the remaining half of the grille by working around the speaker, fitting the grille into the groove as you go.

Note: You can adjust the torque applied to the RotoLock screws to achieve a proper grille fit.

Painting The Speakers and Grilles

You can paint the speakers and grilles before installing them, which will eliminate the "paint scar" that can be left on the wall if the speaker ever needs to be removed for service. You can also paint the speakers after installation, but before the grilles are attached. All Sonance Merlot speakers come from the factory fitted with a plastic 'paint plug' that protects the speaker drivers while the mounting flange is being painted.

Sonance always suggests painting the grille separately from the speaker. Before painting, carefully remove the under-grille cloth. It is held in place with a light tacking glue that makes it easy to remove.

Spray the grilles with thinned paint (5 parts thinner to 1 part paint), being careful not to plug the holes. Too heavy a coat of paint on the grille will adversely affect the sound of the speaker.

Once the grilles and flange are painted and dry, replace the under-grille cloth, remove the paint plug from the mounting flange and install the grille.

Speaker Adjustments

Pivoting Tweeter

All Merlot M-series speakers have a pivoting tweeter that allows you to direct sound towards or away from the listening area, depending on how the speakers are being used:

- If you're using the speakers in stereo or as the front left/center/right speakers in a home theater, pivot the tweeter directly towards the listening area. This will help the sound from the speakers blend into a solid soundstage even if the speakers are widely separated.
- If you're using the speakers as surround channel speakers in a home theater, you can create a more diffuse, spacious surround effect by pivoting the tweeters towards a wall or window, away from the listeners.

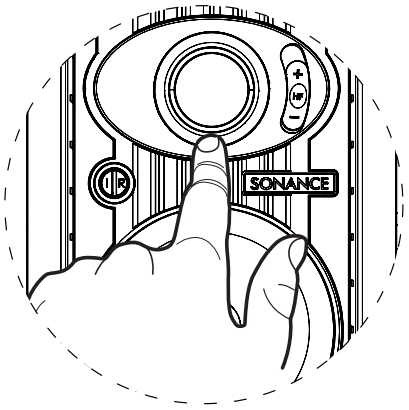

Figure 13: Pivoting the Tweeter

To Pivot the Tweeter:

Apply light pressure to the plastic ring around the outside edge of the tweeter dome, as shown in *Figure 13*. Take care not to touch or apply pressure to the tweeter dome itself.

Tweeter Level Control

The Merlot 423M has a tweeter level control switch (see *Figure 14*) that boosts or cuts the tweeter's level by 3dB. This allows you to adjust the speaker's brightness to better match your listening room or personal taste.

Once you have installed the speakers, listen to a variety of music that you are familiar with. If the music all tends to sound too bright or dull, use the Tweeter Level Control to compensate. If some recordings sound dull and some sound bright the speaker is accurately reproducing differences in the recordings, and you should leave the control in the middle (0dB) position.

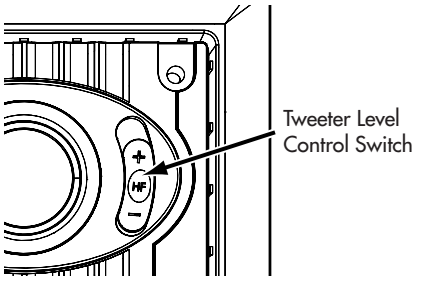

Figure 14:
Tweeter Level Control Switch

Specifications

Sonance Merlot 423M

Tweeter:	1" (25mm) Silk dome, pivoting
Woofer:	4½" (114mm) Carbon fiber cone with a rubber surround
Frequency Response	55Hz – 20kHz ±3dB
Impedance	8 ohms nominal; 6 ohms minimum
Power Handling	5 watts minimum; 80 watts maximum
Sensitivity:	90dB SPL (2.83V/1 meter)
Grille Material:	Perforated Aluminum
Adjustments:	±3dB Tweeter Level
Dimensions (W x H x D):	$5\frac{7}{16}$" x $8\frac{7}{8}$" x 3" (138mm x 225mm x 76mm)
Cutout Dimensions (W x H):	$4\frac{5}{8}$" x $8\frac{1}{16}$" (117mm x 205mm)
Shipping Weight:	6 lbs (2.8kg) per pair

Sonance Merlot 422M

Tweeter:	¾" (19mm) Silk dome, pivoting
Woofer:	4½" (114mm) Polypropylene cone with a rubber surround
Frequency Response	60Hz – 20kHz ±3dB
Impedance	8 ohms nominal; 6 ohms minimum
Power Handling	5 watts minimum; 60 watts maximum
Sensitivity:	90dB SPL (2.83V/1 meter)
Grille Material:	Perforated Aluminum
Adjustments:	None
Dimensions (W x H x D):	$5\frac{7}{16}$" x $8\frac{7}{8}$" x 3" (138mm x 225mm x 76mm)
Cutout Dimensions (W x H):	$4\frac{5}{8}$" x $8\frac{1}{16}$" (117mm x 205mm)
Shipping Weight:	6 lbs (2.8kg) per pair

Technical Assistance and Service

If you have any questions about the operation or installation of this product, please call our Technical Assistance Department on any business day at (800) 582-0772 or (949) 492-7777; from 7 a.m. to 5 p.m., Pacific Time.

If your speakers should need repair or service, contact your Sonance Authorized Dealer for help, or use the following procedure:

1. Prior to calling, note the product's model number, serial number, purchase date, and the name and address of the dealer where you purchased the product.
2. Contact our Technical Assistance Department at the above number(s) and describe the problem the unit is experiencing. If applicable, they will issue a Return Authorization Number.

IMPORTANT: YOU MUST HAVE PRIOR AUTHORIZATION TO RETURN YOUR SPEAKER TO SONANCE!

3. If you're directed to return the unit to Sonance for repair, pack the unit in its original shipping carton. If needed, you can obtain replacement packaging from us for a small charge. Note: it is best if you place the box into an additional outer "overcarton" before shipment to minimize a chance of theft in shipment. Please include a copy of the original bill of sale inside the package.
4. Contact a package delivery company such as United Parcel Service or Federal Express to arrange prepaid (not collect) shipping. Do not use the U.S. Postal Service.

IMPORTANT: Freight collect shipments will be refused.

5. Write the Return Authorization Number on the outside of the shipping carton.

6. Ship the packaged unit to:

Quality Assurance Department
Sonance
212 Avenida Fabricante
San Clemente, CA 92672-7531

Limited Lifetime Warranty Coverage (U.S. Only)

Sonance warrants to the original retail purchaser only that this Sonance product will be free from defects in materials and workmanship, provided the product was purchased from a Sonance Authorized Dealer.

Defective products must be shipped, together with proof of purchase, prepaid insured to the Authorized Sonance Dealer from whom they were purchased, or to the Sonance factory at the address listed in this instruction manual. Freight collect shipments will be refused. It is preferable to ship this product in the original shipping container to lessen the chance of transit damage. In any case, the risk or loss or damage in transit is to be borne by the purchaser. If upon examination at the factory or Authorized Sonance Dealer it is determined that the unit was defective in materials or workmanship at any time during this warranty period, Sonance or the Authorized Sonance Dealer will, at its option, repair or replace this product at no additional charge, except as set forth below. If this model is no longer available and can not be repaired effectively, Sonance, at is sole option, may replace the unit with a current model of equal or grater value. In some cases where a new model is substituted, a modification to the mounting surface may be required. If mounting surface modification is required, Sonance assumes no responsibility or liability for such modification. All replaced parts and product become the property of Sonance. Products replaced or repaired under this warranty will be returned to the original retail purchaser, within a reasonable time, freight prepaid.

This Warranty does not include service or parts to repair damage caused by accident, disaster, misuse, abuse, negligence, inadequate packing or shipping procedures, commercial use, voltage inputs in excess of the rated maximum of the unit, or service, repair or modification of the product which has not been authorized or approved by Sonance. This Warranty also excludes normal cosmetic deterioration caused by environmental conditions. This Warranty will be void if the Serial Number on the product has been removed, tampered-with or defaced. This Warranty is in lieu of all other expressed warranties. If the product is defective in materials or workmanship as warranted above, the purchaser's sole remedy shall be repair or replacement as provided above. In no event will Sonance be liable for any incidental or consequential damages arising out of the use or inability to use the product, even if Sonance or an Authorized Sonance Dealer has been advised of the possibility of such damages, or for any claim by any other party.

Some states do not allow the exclusion or limitation of consequential damages, so the above limitation and exclusion may not apply. All implied warranties on the product are limited to the duration of this expressed Warranty. Some states do not allow limitation on the length of an implied warranty. If the original retail purchaser resides in such a state, this limitation does not apply.

Exclusions and Limitations

The warranty set forth above is in lieu of all other warranties, express or implied, of merchantability, fitness for a particular purpose, or otherwise. The warranty is limited to Sonance products registered herein and specifically excludes any damage to loudspeakers and other allied or associated equipment which may result for any reason from use with this product. Sonance shall, in no event, be liable for incidental or consequential damages arising from any breach of this warranty or otherwise. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Notes:

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Due to continuous product improvement, all features and specifications are subject to change without notice. For the latest Sonance product specification information visit our website: www.sonance.com

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www.sonance.com

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